

basin, vast deposits are formed by the meeting of the opposing waters, the great submarine islands known as "The Banks" are formed, and the rich pastures created in Ireland by the warm and humid influences of the Gulf Stream are compensated by the "rich sea-pastures of Newfoundland." The fishes of warm or tropical waters, inferior in quality and scarcely capable of preservation, cannot form an article of commerce like those produced in inexhaustible quantities in these cold and shallow seas. The abundance of these marine resources is unequalled in any part of the globe.

Canada, rather a nation than a province, in any common acceptation of the term, includes not less than 346,865 square miles of territory independently of its Northwestern Possessions not yet open for settlement. It is three times as large as Great Britain and Ireland, and more than three times as large as Prussia. It intervenes between the great Northwest and the Maritime Provinces, and consists chiefly of a vast territorial projection into the territory of the United States, although it possesses a coast of nearly 1,000 miles of the river and gulf of the St. Lawrence, where fisheries of cod, herring, mackerel, and salmon are carried on successfully. Valuable fisheries exist also in its lakes.

It is rich in metallic ore and in the resources of its forests. Large portions of its territory are peculiarly favorable to the growth of wheat, barley, and the other cereals of the north. During the life of the present generation, or the last quarter of a century, its popu-

lation has increased more than fourfold, or from 582,000 to 2,500,000.

The population of all the provinces may be fairly estimated as numbering 3,500,000. Many of the inhabitants are of French extraction, and a few German Settlements exist; but two-thirds of the people of the Provinces owe their origin either to the United States or to the British islands, and who "people the world with men industrious and free."

The climate and soil of these Provinces and Possessions, seemingly less indulgent than those of tropical regions, are precisely those by which the skill, energy, and virtues of the human race are best developed. Nature there demands thought and labor from man, as conditions of existence, but yields abundant rewards to wise industry. Those causes which, in our age of the world, determine the wealth of nations are those which render man most active; and it cannot be too often or too closely remembered in discussing subjects so vast as these, where the human mind may be misled if it attempts to comprehend them in their boundless variety of detail, that sure and safe guides in the application of political economy, and to our own prosperity, are to be found in the simple principles of morality and justice, because they alone are true alike in minute and great affairs, at all times and in every place.

They imply freedom for ourselves, and those rules of fraternity or equality which enjoin us to regard our neighbours as ourselves. We can trust in our policy.

COMMERCIAL REVIEW.

PETROLEUM GAS.

The London *Times* roughly estimates that the quantity of Petroleum or Rock Oil which will be exported to Europe in 1863 will amount to fifty or sixty million gallons. Numerous uses for the different light and heavy oils, which can be procured from petroleum by distillation, are already known, and application is now made of this curious product in a great number of forms. But it is as an illuminator that it will find most favor with the public, where the supply is constant and cheap; and it is very probable that, as an economical source of gas for illuminating and heating purposes, it will advance rapidly into general use.

The results of a series of experiments which have recently been made at the gas works from which the small towns of Homer and Courtland, in the State of New York, are supplied, are most satisfactory and encouraging, both with regard to the luminous qualities and the remarkable cheapness of petroleum gas.

The following details are the results of careful measurement in all particulars, from which information as to the economy of the manufacture of petroleum gas could be derived.

The process employed at Homer and Courtland is similar, in most respects, to that which enables the proprietor of the Stevenson House, St. Catharines, C W., to light his establishment with 180 burners, at a cost of 86 cents a

night, under what is known as Thompson's patent.

The retorts at Homer are two in number, and of the following dimensions:—

Length	7½ feet.
Breadth.....	16 inches.
Height	12 "

Two vertical tubes are cast on each retort for the purpose of supplying water and petroleum. The retorts are laid horizontally in an arch, exactly the same as ordinary coal gas retorts, for which they can be substituted without much trouble or expense. Each retort is divided into three chambers called petroleum, the water, and the coke chambers respectively.

Petroleum and water are introduced in continuous streams through the tubes before described, so that when once a barrel of petroleum is placed at a sufficient height to allow a pipe provided with a stop-cock to feed the retort, the fluid may be admitted and the process of conversion into gas goes on without further trouble until the barrel is exhausted.

Two series of experiments were recently made at Homer, with the following results:—

First trial.

Quantity of gas made by each retort, per hour,	450 cubic feet.
Total quantity of gas made, 3,380 cubic feet.	
Petroleum consumed, 38 wine gallons.	